201-14112

December 9, 2002

By Mail
Christine Todd Whitman, Administrator
US EPA
PO Box 1473
Merrifield, VA 22116

Attn: Chemical Right-to-Know Program – Test Plan Submission from HERTG
Registration Number

Dear Administrator Whitman:

The American Chemistry Council Petroleum Additives Panel (Panel) Health, Environmental, and Regulatory Task Group (HERTG) submits for review and public comment its test plan report, as well as related robust summaries, for the *"Alkenyl Succinic Anyhdride"* category under the Environmental Protection Agency's High Production Volume (HPV) Chemical Challenge Program. The HERTG understands that there will be a 120-day review period for the test plan report and that all comments generated by or provided to EPA will be forwarded to the HERTG for consideration.

The alkenyl succinic anhydrides, which are used as petroleum lubricant additives, are characterized by having structural similarities and limited reactivity, low biological activity, and limited water solubility. Based upon the data reviewed in the attached report, the HERTG concludes that the physicochemical and toxicological properties of the proposed alkenyl succinic anhydride category are similar and follow a regular pattern as a result of structural similarity. The three chemicals in the alkenyl succinic anhydride category are as follows:

- 2,5-Furandione, dihydro-3-(tetrapropenyl)-, (CAS #26544-38-7), referred to as "tetrapropenylsuccinic anhydride".
- Butanedioic acid, (tetrapropenyl)-, (CAS #27859-58-1), referred to as "tetrapropenyl butanedioic acid".
- 2,5-Furandione, 3-(dodecenyl) dihydro-, (CAS #25377-73-5), referred to as "dodecenylsuccinic anhydride".

Briefly, the test plan for the HERTG alkenyl succinic anhydrides includes the following tests and computer modeling:

- Physicochemical - The water solubility of tetrapropenyl butanedioic acid (CAS #27859-58-1) will be determined.
- Hydrolysis - The potential for tetrapropenylsuccinic anhydride (CAS #26544-38-7) to hydrolyze will be characterized. The public and available private literature will be

evaluated to determine whether there is sufficient information to adequately characterize the potential hydrolysis rate of tetrapropenylsuccinic anhydride (CAS #26544-38-7). If it is determined that there is a lack of adequate information, this substance will be tested to develop hydrolytic rate data. If sufficient information is available in the general literature, it will be provided in the form of a robust summary.

- Photodegradation - The chemical structure of category members will be evaluated to determine whether there is a potential for direct photodegradation. Data will also be developed to characterize indirect photodegradation for category members using the AOP model in EPIWIN. Information or data for both routes of degradation will be provided in robust summaries.
- Fugacity modeling - Environmental partitioning data for members of this category will be calculated using a Mackay Level I equilibrium partitioning model and provided in robust summaries.
- Acute fish toxicity - Testing will be conducted on tetrapropenyl butanedioic acid (CAS #27859-58-1). Results will be bridged to other members of the category.
- Acute invertebrate toxicity - Testing will be conducted on tetrapropenyl butanedioic acid (CAS #27859-58-1). Results will be bridged to other members of the category.
- Mutagenicity - Bacterial mutation and *in vitro* chromosome aberration studies will be conducted on the tetrapropenyl butanedioic acid derivative (CAS #27859-58-1). Results will be bridged to other members of the category.
- Repeated-dose toxicity - Tetrapropenyl butanedioic acid (CAS #27859-58-1) will be tested in a 28-day dose-range finding study for the reproductive/developmental toxicity study.
- Reproductive/developmental toxicity - Tetrapropenyl butanedioic acid (CAS #27859-58-1) will be tested in a one-generation study.

As this test plan was developed, careful consideration was given to the number of animals that would be required for tests included in the proposed plan and conditions to which the animals might be exposed. In consideration of the concerns of some non-governmental organizations about animal welfare, the use of animals in this proposed test plan has been minimized.

Thank you in advance for your attention to this matter. If you have any questions regarding the test plan report or the robust summaries, or HERTG's activities associated with the Challenge Program, please contact Sarah McLallen at 703-741-5607 (telephone), 703-741-6091 (telefax) or Sarah_McLallen@americanchemistry.com (e-mail).

Sincerely yours,

Courtney M. Price
Vice President, CHEMSTAR

cc: HERTG members